

5'	TTT	TTT	CAT	ACC	ATC	TCT	AAG	ATT	GCT	GCC	GCA	TTT	GCT	TGT	TAA	ACT	GAA	AGC
	9	18	27	36	45	54												
	63	72	81	90	99	108												
M	F	L	A	K	A	L	L	E	G	A	D	R	G	L	G	E	A	
	117	126	135	144	153	162												
L	G	G	L	F	G	G	Q	R	R	E	G	G	G	R	N			
	171	180	189	198	207	216												
I	G	G	I	V	G	G	I	V	N	F	I	S	E	A	A	A	A	
	225	234	243	252	261	270												
Q	Y	T	P	E	P	P	T	Q	Q	H	F	T	S	V	E	A		
	279	288	297	306	315	324												
S	E	S	E	V	R	R	F	R	Q	Q	F	T	Q	L	A	G		
	333	342	351	360	369	378												
P	D	M	E	V	G	A	T	D	L	M	N	I	L	N	K	V	L	

FIGURE 1A

TCT	AAG	CAC	AAA	GAT	CTT	AAG	ACT	GAC	GGT	TTT	AGT	CTT	GAC	ACC	TGC	CGG	AGC	432	
S	K	H	K	D	L	K	T	D	G	F	S	L	D	T	C	R	S		
441			450			459			468			477			477			486	
ATT	GTG	TCT	GTC	ATG	GAC	AGT	GAC	ACG	ACT	GGT	AAG	CTG	GGC	TTT	GAA	GAA	TTT		
I	V	S	V	M	D	S	D	T	T	G	K	L	G	F	E	E	F		
495			504			513			522			531			540				
AAG	TAT	CTG	TGG	AAC	AAC	ATC	AAG	AAA	TGG	CAG	TGT	GTT	TAT	AAG	CAG	TAT	GAC		
K	Y	L	W	N	N	I	K	K	W	Q	C	V	Y	K	Q	Y	D		
549			558			567			576			585			594				
AGG	GAC	CAT	TCT	GGG	TCT	CTG	GGA	AGT	TCT	CAG	CTG	CGG	GGA	GCT	CTG	CAG	GCC		
R	D	H	S	G	S	L	G	S	S	Q	L	R	G	A	L	Q	A		
603			612			621			630			639			648				
GCA	GGC	TTC	CAG	CTA	AAT	GAA	CAA	CTT	TAC	CAA	ATG	ATT	GTC	CGC	CGG	TAT	GCT		
A	G	F	Q	L	N	E	Q	L	Y	Q	M	I	V	R	R	Y	A		
657			666			675			684			693			702				
AAT	GAA	GAT	GGA	GAT	ATG	GAT	TTT	AAC	AAT	TTC	ATC	AGC	TGC	TTG	GTC	CGC	CTG		
N	E	D	G	D	M	D	F	N	N	F	I	S	C	L	V	R	L		
711			720			729			738			747			756				
GAT	GCC	ATG	TTT	CGT	GCC	TTC	AAG	TCT	CTG	GAT	AGA	GAT	AGA	GAT	GGC	CTG	ATP		
D	A	M	F	R	A	F	K	S	L	D	R	D	R	D	G	L	I		

FIGURE 1B

CAA	GTG	TCT	ATC	AAA	GAG	TGG	CTG	CAG	TG	ACC	ATG	TAT	TCC	TGA	AGT	GGG	AAC	810
Q	V	S	I	K	E	W	L	Q	L	T	M	Y	S					
TGA	GAA	GTC	AAG	ATC	CTC	CCT	GGA	GGA	CAG	GAC	TGA	AAA	CCT	TGC	CAA	GCT	GTA	864
819		828			837				846			855						
873		882			891				900			909						918
CAC	AGT	TGC	TGA	TAC	CCT	GTG	CAA	CAG	CTC	TCA	TTT	CCT	GGC	AAG	CTC	TTT	CAC	927
																		972
927		936			945				954			963						
AAC	CCT	ACA	TAT	TTC	TGA	TCA	TGT	GCT	GCC	T ^{TTT}	TAC	TGC	TGA	ATT	AAA	ACA	GAT	
981		990			999													
ATT	TCA	CGA	AAA	AAA	AAA	AAA	A	3'										

FIGURE 1C

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5'	CGC	TGT	CGG	TGC	GGC	GCG	CGT	GCG	GGT	GCA	AAC	CCG	AGC	GTC	TAC	GCT	GCC
	9	18	27												45	54	5
	63	72	81												99	108	
M	R	G	A	N	A	W	A	P	L	C	L	L	A	A	A	GCC	ACC
Q	L	S	R	Q	S	P	E	R	P	V	F	T	C	G	G	I	
	117	126	135												153	162	
CAG	CTC	TCG	CGG	CAG	CAG	TCC	CCA	GAG	AGA	CCT	GTT	TTC	ACA	TGT	GGT	GGC	ATT
	171	180	189												207	216	
L	T	G	E	S	G	F	I	G	S	E	G	F	P	G	V	Y	P
	225	234	243												261	270	
CCA	AAT	AGC	AAA	TGT	ACT	TGG	AAA	ATC	ACA	GTT	CCC	GAA	AAA	GTA	GTC	GTT	
P	N	S	K	C	T	W	K	I	T	V	P	E	G	K	V	V	V
	279	288	297												315	324	
L	N	F	R	F	I	D	L	E	S	D	N	L	C	R	Y	D	F
	333	342	351												369	378	
V	D	V	Y	N	G	H	A	N	G	Q	R	I	G	R	F	C	G

FIGURE 2A

FIGURE 2B

CCA	CCT	GCG	CCA	ATT	GTG	TCT	GAG	AAT	GAA	CCT	CCT	ATT	CAG	TTT	TTA	TCA	
P	P	A	P	I	V	S	E	R	N	E	L	L	I	Q	F	L	S
D	L	S	L	T	A	D	G	F	I	G	H	Y	I	F	R	P	K
AAA	CTG	CCT	ACA	ACT	GCA	GAT	GGG	TTT	ATT	GGT	CAC	TAC	ATA	TTC	AGG	CCA	AAA
K	L	P	T	T	E	Q	P	V	T	T	F	T	F	P	V	T	T
GGT	TTA	AAA	CCC	ACC	GTG	GCC	TTG	TGT	CAA	CAA	AAG	TGT	AGA	CGG	ACG	GGG	ACT
G	L	K	P	T	V	A	L	C	Q	Q	K	C	R	R	T	G	T
CTG	GAG	GGC	AAT	TAT	TGT	TCA	AGT	GAC	TTT	GTA	TTA	GCC	GGC	ACT	GTT	ATC	ACA
L	E	G	N	Y	C	S	S	D	F	V	L	A	G	T	V	I	T
ACC	ATC	ACT	CGC	GAT	GGG	AGT	TTG	CAC	GCC	ACA	GTC	TCG	ATC	ATC	AAC	ATC	TAC
T	I	T	R	D	G	S	L	H	A	T	V	S	I	I	N	I	Y
AAA	GAG	GGA	AAT	TTG	GGG	ATT	CAG	CAG	GGC	GGC	AAG	AAC	ATG	AGT	GCC	AGG	CTG
K	E	G	N	L	A	I	Q	Q	A	G	K	N	M	S	A	R	L

FIGURE2C

ACT	GTC	TGC	AAG	CAG	TGC	CCT	CTC	CTC	AGA	AGA	GGT	CTA	AAT	TAC	ATT	ATT	1188
T	V	V	C	K	Q	C	P	L	R	R	G	L	N	Y	I	I	
1143	1152	1161	1170	1179	1188												
ATG	GGC	CAA	GTA	GGT	GAA	GAT	GGG	CGA	GGC	AAA	ATC	ATG	CCA	AAC	AGC	TTT	ATC
M	G	Q	V	G	E	D	G	R	G	K	I	M	P	N	S	F	I
1197	1206	1215	1224	1233	1242												
ATG	ATG	TTC	AAG	ACC	AAG	AAT	CAG	AAG	CTC	CTG	GAT	GCC	TTA	AAA	AAT	AAG	CAA
M	M	F	K	T	K	N	Q	K	L	L	D	A	L	K	N	K	Q
1251	1260	1269	1278	1287	1296												
TGT	TAA	CAG	TGA	ACT	GTG	TCC	ATT	TAA	GCT	GTA	TTC	TGC	CAT	TGC	CTT	TGA	AAG
C																	
1305	1314	1323	1332	1341	1350												
1359	1368	1377	1386	1395	1404												
ATC	TAT	GTT	CTC	TCA	GTA	GAA	AAA	AAA	ATA	CTT	ATA	AAA	TTA	CAT	ATT	CTG	AAA
1413	1422	1431	1440	1449	1458												
GAG	GAT	TCC	GAA	AGA	TGG	GAC	TGG	TTG	ACT	CTT	CAC	ATG	ATG	GAG	GTA	TGA	GGC
1467	1476	1485	1494	1503	1512												
CTC	CGA	GAT	AGC	TGA	GGG	AAG	TTC	TTT	GCC	TGT	CAG	AGG	AGC	AGC	TAT	CTG	

FIGURE 2D

1521 1530 1539 1548 1557 1566
ATT GGA AAC CTG CCG ACT TAG TGC GGT GAT AGG AAG CTA AAA GTG TCA AGC GTT

1575 1584 1593 1602 1611 1620
GAC AGC TTG GAA GCG TTT ATT TAT ACA TCT CTG TAA AAG GAT ATT TTA GAA TTG

1629 1638 1647 1656 1665 1674
AGT TGT GTG AAG ATG TCA AAA AAA GAT TTT AGA AGT GCA ATA TTT ATA GTG TTA

1683 1692 1701 1710 1719 1728
TTT GTT TCA CCT TCA AGC CTT TGC CCT GAG GTG TTA CAA TCT TGT CTT GCG TTT

1737 1746 1755 1764 1773 1782
TCT AAA TCA ATG CTT AAT AAA ATA TTT TTA AAG GAA AAA AAA AAA AAA AAA

1791 1800
AAA AAA AAA AAA CGA AT 3'

FIGURE 2E

5' CG GAG GGG GCA AGG GAG AAG CTC GTC GGA CTC ACA ATG AAA ACG CTC CTT CTT	11	20	29	38	47	56
L L V L L E L G E A Q G S L H R V				M K T L L		
TTG CTG CTG GTG CTC CTG GAG CTG GGA GAG GCC CAA GGA TCC CTT CAC AGG GTG	65	74	83	92	101	110
L L L V L L E L G E A Q G S L H R V						
CCC CTC AGG AGG CAT CCG TCC CTC AAG AAG AAG CTG CGG GCA CGG AGC CAG CTC	119	128	137	146	155	164
P L R R H P S L K K K L R A R S Q L						
TCT GAG TTC TGG AAA TCC CAT ATT TTG GAC ATG ATC CAG TTC ACC GAG TCC TGC	173	182	191	200	209	218
S E F W K S H N L D M I Q F T E S C						
TCA ATG GAC CAG AGT GCC AAG GAA CCC CTC ATC AAC TAC TTG GAT ATG GAA TAC	227	236	245	254	263	272
S M D Q S A K E P L I N Y L D M E Y						
TTC GGC ACT ATC TCC ATT GGC TCC CCA CCA CAG AAC TTC ACT GTC ATC TTC GAC	281	290	299	308	317	326
F G T I S I G S P P Q N F T V I F D						
ACT GGC TCC TCC AAC CTC TGG GTC CCC TCT GTG TAC TGC ACT AGC CCA GCC TGC	335	344	353	362	371	380
T G S S N L W V P S V Y C T S P A C						

FIGURE3A

AAG	ACG	CAC	AGC	AGG	TTC	CAG	CCT	TCC	CAG	TCC	AGC	ACA	TAC	AGC	CAG	CCA	GGT	434	
K	T	H	S	R	F	Q	P	S	Q	S	S	T	Y	S	Q	P	G		
CAA	TCT	TTC	TCC	ATT	CAG	TAT	GGA	ACC	GGG	AGC	TTG	TCC	GGG	ATC	ATT	GGA	GCC	488	
Q	S	F	S	I	Q	Y	G	T	G	S	L	S	G	I	I	G	A		
GAC	CAA	GTC	TCT	GTG	GAA	GGA	CTA	ACC	GTG	GTT	GGC	CAG	CAG	TTT	GGA	GAA	AGT	542	
D	Q	V	S	V	E	G	L	T	V	V	Q	Q	Q	F	G	E	S		
GTC	ACA	GAG	CCA	GGC	CAG	ACC	TTT	GTG	GAT	GCA	GAG	TTT	GAT	GGA	ATT	CTG	GGC	596	
V	T	E	P	G	Q	T	F	V	D	A	E	F	D	G	I	L	G		
CTG	GGA	TAC	CCC	TCC	TTG	GCT	GTG	GGA	GGA	GTG	ACT	CCA	GTA	TTT	GAC	AAC	ATG	650	
L	G	Y	P	S	L	A	V	G	G	V	T	P	V	F	D	N	M		
ATG	GCT	CAG	AAC	CTG	GTG	GAC	TTG	CCG	ATG	TTT	TCT	GTC	TAC	ATG	AGC	AGT	AAC	704	
M	A	Q	N	L	V	D	L	P	M	F	S	V	Y	M	S	S	N		
CCA	GAA	GGT	GGT	GCC	GGG	AGC	GAG	CTG	ATT	TTT	GGA	GGC	TAC	GAC	CAC	TCC	CAT	758	
P	E	G	G	A	G	S	E	L	I	F	G	G	Y	D	H	S	H		

FIGURE 3B

TTC	TCT	GGG	AGC	CTG	AAT	TGG	GTC	CCA	GTC	ACC	AAG	CAA	GCT	TAC	TGG	CAG	ATT	812	
F	S	G	S	L	N	W	V	P	V	T	K	Q	A	Y	W	Q	I		
821		830			839			848			857			866					
A	L	D	N	Y	A	V	E	C	A	N	L	N	V	M	P	D	V		
875		884			893			902			911			920					
ACC	TTC	ACC	ATT	AAC	GGA	GTC	CCC	TAT	ACC	CTC	AGC	CCA	ACT	GCC	TAC	ACC	CTA		
T	F	T	I	N	G	V	P	Y	T	L	S	P	T	A	Y	T	L		
929		938			947			956			965			974					
CTG	GAC	TTC	GTG	GAT	GGA	ATG	CAG	TTC	TGC	AGC	AGT	GGC	TTT	CAA	GGA	CTT	GAC		
L	D	F	V	D	G	M	Q	F	C	S	S	G	F	Q	G	L	D		
983		992			1001			1010			1019			1028					
ATC	CAC	CCT	CCA	GCT	GGG	CCC	CTC	TGG	ATC	CTG	GGG	GAT	GTC	TTC	ATT	CGA	CAG		
I	H	P	P	A	G	P	L	W	I	L	G	D	V	F	I	R	Q		
1037		1046			1055			1064			1073			1082					
TTT	TAC	TCA	GTC	TTT	GAC	CGT	GGG	AAT	AAC	CGT	GTG	GGA	CTG	GCC	CCA	GCA	GTC		
F	Y	S	V	F	D	R	G	N	N	R	V	G	L	A	P	A	V		
1091		1100			1109			1118			1127			1136					
CCC	TAA	GGG	GGG	GCC	TGG	TGG	CTG	CTG	CTG	GTC	TGA	CAG	ACC	TRG	AAT	ATG			
P																			

FIGURE3C

1145	1154	1163	1172	1181	1190												
TTA	GGC	TGG	GGC	ATT	CTT	TAC	ACC	TAC	AAA	AAG	TTA	TTT	TCC	AGA	GAA	TGT	AGC
1199	1208	1217	1226	1235	1244												
TGT	TTC	CAG	GGT	TGC	AAC	TTG	AAT	TAA	GAC	CAA	ACA	GAA	CAT	GAG	AAT	ACA	CAC
1253	1262	1271	1280	1289	1298												
ACA	CAC	ACA	CAT	ATA	CAC	ACA	CAC	ACA	CTT	CAC	ACA	TAC	ACA	CCA	CTC	CCA	CCA
1307	1316	1325	1334	1343	1352												
CCG	TCA	TGA	TGG	AGG	AAT	TAC	GTG	ATA	CAT	TCA	TAT	TTT	GTA	TG	ATT	TTT	GAT
1361	1370	1379	1388	1397	1406												
TAT	GAA	AAT	CAA	AAA	TTT	TCA	CAT	TTG	ATT	ATG	AAA	ATC	TCC	AAA	CAT	ATG	CAC
1415	1424	1433	1442	1451	1460												
AAG	CAG	AGA	TCA	TGG	TAT	AAT	AAA	TCC	CTT	TGC	AAC	TCC	ACT	CAG	CCC	TGA	CAA
1469	1478	1487	1496	1505	1514												
CCC	ATC	CAC	ACA	CGG	CCA	GGC	CTG	TTT	ATC	TAC	ACT	GCT	GCC	CAC	TCC	TCT	CTC
1523	1532	1541	1550	1559	1568												
CAG	CTC	CAC	ATG	CTG	TAC	CTG	GAT	CAT	TCT	GAA	GCA	AAT	TCC	GAG	CAT	TAC	ATC
1577	1586	1595	1604	1613	1622												
ATT	TGT	TCC	ATA	ATT	ATT	TCT	AAC	ATC	CTT	AAA	TAT	ACA	ATC	GGA	ATT	CAA	GCA

FIGURE 3D

1631	1640	1649	1658	1667	1676
TCT CCC ATT GTC CCA CAA ATG TTT GCC TGT TTT TGT AGT TGG ATT GTT TGT ATT					
1685	1694	1703	1712	1721	1730
AGG ATT CAA GCA AGG CCC ATA TAT TGC ATT TAT TGT AAA TGT CTG TAA GTC TCT					
1739	1748	1757	1766	1775	1784
TTC CAT CTA CAG AGT TTA GCA CAT TTG AAC GTT GCT GGT TGA AAT CCC GAG GTG					
1793	1802	1811	1820	1829	1838
TCA TTT GAC ATG GTT CTC TGA ACT TAT CTT TCC TAT AAA ATG GTA GTT AGA TCT					
1847	1856	1865	1874	1883	1892
GGA CGT CTG ATT TTG TGG CAA AAA TAC TTC CTA GGT GGT GCT GGG TAC TTC TTG					
1901	1910	1919	1928	1937	1946
TTC CAT CCT GTC AGG AGG CAG ATA ATG CTG GTG CCT CTC TAT TGG TAA TGT TAA					
1955	1964	1973	1982	1991	2000
GAC TGC TGG GTG GGT TTG GAG TTC TTG GCT TTA ATC ATT CAT TAC AAA GTT CAG					
2009	2018	2027	2036	2045	2054
CAT TTT AAA AAA AAA AAA AAG GAA AAA AAG AAA GAA AAA GAG AAA AAA GAA					
2063	2072				
AAA AAA AAG GAA AGA GGG G 3'					

FIGURE3E

1 M F L A K A L L E G A D R G - - - - - L G E A L G 456855
1 M F L [V N S F L] K G G G G G G G G L G G G L G N V L G g164403

21 G L F G G G Q R R E G G G R N I G G - - - - - I V 456855
31 G L I S G [G A G G G G G G G G G G G G G G G G T A M R I L g164403

42 G G I V N F I S E A A A Q Y T P E P P P T Q Q H F T S V E 456855
61 G G V I S A I S E A A A - Q Y N P E P P P P R T H Y S N I E g164403

72 A S E S E E V R R F R Q Q F T Q L A G P D M E V G A T D L M 456855
90 A N E S E E V R Q F R R L F A Q L A G D D M E V S A T E L M g164403

102 N I L N K V L S K H K D L K T D G F S L D T C R S I V S V M 456855
120 N I L N K V V T R H P D L K T D G F G I D T C R S M V A V M g164403

FIGURE 4A

132	D S D T T G K L G F E E F K Y L W N N I K K W Q C V Y K Q Y	456855
150	D S D T T G K L G F E E F K Y L W N N I K K W Q A I Y K Q F	g164403
162	D R D H S G S S L G S S Q L R G A L Q A A G F Q L N E Q L Y Q	456855
180	D V D [R] S G T I G S S E L P G A F E A A G F H L N E H L Y S	g164403
192	M I V R R Y A N E D G D M D F N N F I S C L V R L D A M F R	456855
210	M I T R R Y S D E G G N M D F D M F I S C L V R L D A M F R	g164403
222	A F K S L D R D R D G L I Q V S I K E W L Q L T M Y S	456855
240	A F K S L D K D G T G Q I Q V N I Q E W L Q L T M Y S	g164403

FIGURE 4B

1 M R G A N A W A P L C - L L L A A A T Q I S R Q Q S P E - - 947429
1 M L P A A L T S F L G P F L L A W V L P L A R G Q T P N Y T g2589009

28 R P V F T C G G I L T G E S S G F I G S E G F P G V Y P P N S 947429
31 R P V F L C G G D V T G E S S G Y V A S E G F P N L Y P P N K g2589009

58 K C T W K I T V P E G K V V V L N F R E I D L E S D N L C R 947429
61 K C T W T I T V P E G Q T V S L S F R V F D M E L H P S C R g2589009

88 Y D F V D V Y N G H A - N G Q R I G R F C G T F R P G A L V 947429
91 Y D A L E V F A G S G T S G Q R L G R F C G T F R P A P V V g2589009

117 S S G N K M M V Q M I F D A N T A G N G F M A M F S A A E P 947429
121 A P G N Q V T L R M T T D E G T G G G R G F L L W Y S G R A T g2589009

147 N E R G D Q Y C G G L L D R P S G S F K T P N W P D R D Y P 947429
151 S G T E H Q F C G G R M E K A Q G T L T T P N W P E S D Y P g2589009

177 A G V T C V W H I V A P K N Q L I E L K F E K F D V E R D N 947429
181 P G I S C S W H I T A P S N Q V I M L T F G K F D V E P D T g2589009

FIGURE 5A

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Serial No.: To Be Assigned

207 Y C R Y D Y V A V F N G G E V N D A R R I G K Y C G D S P P 947429
211 Y C R Y D S V S V F N G A V S D D S K R L G K F C G D K A P g2589009

237 A P I V S E R N E L L I Q F L S D L S L T A D G F I G H Y I 947429
241 S P I S S E G N E L L V Q F V S D L S V T A D G F S A S Y R g2589009

267 [F] - 947429

271 T L P R D A V E K E S A L S P G E D V Q R G P Q S R S D P K 947429
301 T G T G P K V K P P T K P K S Q P A E T P E A S P A T Q A T g2589009

287 T T G L K P T V A L C Q Q K C R R T G T L E G N Y C S S D F 947429
331 P V A P A P S I T C P K Q Y K R S G T L Q S N F C S S S L 92589009

317 V L A G T V I T T I - T R D G S L H A T V S I I N I Y K E G 947429
361 V V T G T V K T M V R G P G E G L T V T V S L L G V Y K T G g2589009

FIGURE 5B